Cutaway Van Chassis Light Duty, Accessible
TRANSIT COMPOSITE/FIBERGLASS BUSES
(176" wheelbase -- 18 Passenger)
(74" Headroom)

The following specifications shall apply to the purchase of Small Transit Bus vehicles by Iowa Public Transit Providers that receive Federal Transit Administration (FTA) program assistance. Purchases of such vehicles are budgeted to be funded at 80-83%% participation with federal assistance. The dual rear wheel vehicles required must accommodate 18 ambulatory passengers or 14 ambulatory passengers when two (2) mobility aid users (e.g. wheelchair user) are occupied. Vendors are requested to provide pricing for other floor plan and seating alternatives that, in some instances, would alter the passenger capacity of the standard vehicle configuration or floor plan specified.

Each vehicle must comply with all Federal requirements applicable to Americans with Disabilities Act of 1990 and applicable Iowa laws for passenger vehicles of this type.

Vehicles shall be of the latest model year in standard production and, of which, parts are stocked and warranty service is available from trained technicians at one or more points that are not more than 250 miles from the each prospective public transit agency's / buyer's administrative address.

Vehicles must comply with all applicable Federal Motor Vehicle Safety Standards (FMVSS) for this type of vehicle. A written certification that each vehicle to be supplied through this proposal will be in compliance with FMVSS must accompany each bid, as well as any additional pre-award bid certifications. Officials representing the Transit Vehicle Manufacturer (TVM) that a bidder is representing must certify to the TVM's compliance with required FTA provisions and listing of applicable FMVSS requirements.

ESTIMATED QUANTITY TO BE PURCHASED: 30-50

Unless otherwise specified, all items listed below as OEM parts or equipment means that those items shall be --were made by or purchased and installed by the Chassis Manufacturer, not the final stage manufacturer (2nd stage TVM).

1 ACCESSORIES: To be equipped with self-canceling turn indicators, flasher lights which signal front (in parking lights) and rear (in dual tail lights), with odometer, speedometer, oil filter, locks for all doors , dual electric two speed intermittent windshield wipers, windshield washers, single sun visor (or dual sun visors if available), coolant temperature indicator, horn, two sets of keys for all locks, oil pressure indicator, voltmeter, and spare wheel and inflated tire (to be delivered inside at the rear of each unit). Vehicle shall be equipped with front OEM standard front bumper and rear HELP bumper, high output or super-capacity outside ventilating type hot water heater, defroster, and all regularly furnished tools and equipment.

2 ACCESS HATCHES, DOORS, TRAY OR PANELS: Shall be provided to service transmission, engine, radiator, battery, air conditioning components, fuel pump and sending unit, and any other mechanical component that requires routine repair, fluid check and fill, inspection, replacement or access.

3 AIR BAG: Driver's side, Generation II.

4 AIR CONDITIONING: Cooling equipment shall conform to the following:

A Dual under hood compressors – shall be standard equipment.

B Dash Unit – OEM factory installed.

C The system shall have two separate air-conditioners (dual compressors). Factory dash mounted shall output 15,000 BTU and an auxiliary unit for the passenger area with 55,000 BTU, combined 70,000 BTU cooling capacity.

D I think if we want an ACT system, we ought to say so – "Auxiliary system shall be ACT brand."

E Passenger area system: The passenger area AC system shall have its own compressor, a skirt mounted condenser with a free blowing evaporator and a minimum output of 55,000 BTU/hr. The output of the passenger area AC unit shall be individually adjustable by means of controls easily reached by the seated driver. A detailed description of the air-conditioning units should be submitted with each bid, but must be submitted prior to contract award.

F Auxiliary heavy-duty air conditioning: 55,000 BTU minimum capacity. Air conditioning equipment installed shall be capable of providing adequate cooling and dehumidifying capacity for passenger comfort. The delivery system shall provide reasonably constant temperature throughout the vehicle. The system shall be capable of maintaining a temperature of 75 degrees Fahrenheit and 50 percent humidity inside the vehicle at 90 degrees Fahrenheit outside temperatures and extremely high humidity conditions.

G Roof-mounted rear interior evaporator: shall be supplied for each vehicle that meets or exceeds the capacity of a ACT or approved equal dual compressor (kind of hidden…..)system, at ninety-five (95) degrees ambient, 67 df WB, thirty-five (35) degrees delta T minimum with a one-half (½) inch or greater inside diameter drain tube with a removable and washable filter element. Vertical clearance from the floor to the lowest point of the evaporator shall be a minimum of sixty-eight (68) inches. Separate fan and temperature controls for the rear roof-mounted evaporator shall be mounted in a location accessible from the driver's seat-belted position. Rear roof mounted evaporator shall be wired to not function when factory windshield-defrost in the driver's compartment is "on".

H Idle Controller: A Chassis OEM, Intermotive, or approved equal idle controller system shall be installed to maintain battery charging under heavy demand and maintain air-conditioning capacity when the vehicle is stationary, at idle. See Chassis Engine.

I Cut off switch: The AC system shall be cut-off switched for both high and low pressure and shall incorporate a thermostat with a sensing bulb located in the return air of the evaporator to protect the system.

J Refrigeration hose for the AC system shall be Aeroquip, model GH-134, or Carrier hoses, or approved equal, coupled with plated steel Aeroquip E-Z or Carrier Quick Klick fittings for maximum resistance to corrosion, refrigerant permeation, and moisture ingression. Refrigerant fittings and hoses shall be SAE specification J2064 compliant.

K Condenser shall be an ACT or approved equal, skirt mounted, enclosed with the exception of the fan openings, and equipped with fans of sufficient size to provide optimal bus interior climate conditioning. A minimum of three (3) fans shall be driven by motors with sealed bearings and rated at six hundred (600) cubic feet per minute (CFM) or greater to circulate air over a coil that has aluminum fins, twelve (12) per inch, with rippled edges and corrugated surfaces mechanically expanded onto copper tubing with at least three hundred eighty (380) square inches of surface area.

L Filter drier (sixteen (16) cubic inch capacity or greater) shall be provided with a sight glass located in front of the coil and installed with O-ring connections for ease of service, viewing, and a shut off valve for maintenance.

M Road spray shield: A shield is required to reduce spray from front wheel and other debris from being deposited on condensers. The air conditioning manufacturer should engineer this feature as it affects their warranty. The protective cover required is not a “winter cover”.

N The bidder shall provide complete details on the compressor, condenser, and evaporator units and shall state exactly the amperage required to operate the auxiliary condenser fans.

O The air conditioning equipment shall be installed in a manner that will not affect the seating capacity of the vehicle. All controls will be located to allow convenient access from the operator's seat. All wiring, tubing and fittings shall be encased to provide protection from the weather and secured in critical areas to provide maximum protection against accidental damage. All tubing and fittings aft of the firewall shall be secured every foot. A ‘winter cover’ for the outside skirt-mounted unit should be provided along with instructions on how to install this cover.

5 ALTERNATOR(s): Each diesel fueled bus shall be equipped with two chassis OEM alternators – one 120 and one 140 amp. For any gas fueled vehicle a HD alternator must be supplied, by the chassis OEM, according to the requirements of the gas engine option. The charging configuration components must be warranted by the chassis OEM and approved by the bus body air conditioning system supplier for both the diesel and gasoline fueled vehicles any vendor offers.

6 ANTI-CORROSION TREATMENT: All metallic body components, including the surfaces of those interior body panels and posts that are to be covered by insulation or trim materials, shall be thoroughly protected against corrosion by means such as bonderizing or the application of multiple coats of corrosion inhibitive' primer . All nuts, bolts, clips, washers, clamps, and like fasteners shall be zinc- or cadmium-plated or phosphate-coated to prevent corrosion.

7 BACK-UP WARNING DEVICE: The vehicle shall be equipped with an audible warning device in compliance with SAEJ994b (with respect to acoustical performance for Type B device) that is activated when the vehicle transmission is engaged in reverse and continues as the vehicle is being backed up. This should be located behind the rear axle of the vehicle and all wires should be enclosed and secured.

8 BATTERIES: Dual batteries of combined 1500 CCA minimum for diesel units and combined 1250 CCA minimum for gas units. Maintenance free batteries shall be contained in a skirt mounted compartment with a 1/4 turn thumb latch access door. Safety catch shall be provided to prevent battery tray from sliding against battery door while bus is in motion. Batteries shall be accessible by a stainless steel pull out battery tray with stainless steel bearing slides. Manufacturer shall provide adequate cable length to allow battery tray to fully extend and allow easy access to both batteries. The battery compartment is required to be constructed in a manner that minimizes dirt and moisture infiltration yet provides proper ventilation of fumes and ease of access for maintenance of vehicle charging components.

9 BODY: Structure and exterior skin shall be of a composite/fiber glass integrally mounted to the chassis and conform structurally to FMVSS, in particular 211, 212, 220, but others noted on the certification form. The outside layer of the body shell shall be of a composite/fiberglass construction (not metal). All doors shall be fitted with tinted safety glass windows to provide maximum visibility to the driver. Fiberglass reinforced plastic shall be used for the construction of the bus body securely fastened to the interior structural members. The entire body shall be thoroughly tested by the final-stage manufacturer and made as nearly dust-proof and watertight as practicable.

A The body structure shall be steel reinforced fiberglass or steel reinforced plastic that will withstand flexing or fatigue that would make the vehicle unfit for safe and weather-tight operation. The exterior body panels shall be constructed of gel-coated fiberglass reinforced plastic. The body structure shall form an integrated unit. All points, such as joints and corners, at which stress concentrations may occur shall be reinforced as needed to carry required loads and withstand road shock. All structural framing shall be designed and constructed so that each member carries its proportionate share of stresses. Framing members shall be of durable channel, box, hat, zee, or similar cross section. End posts shall be designed to resist shear, and vertical members shall be securely fastened to under frame components so that the entire structure shall act as one unit without any movement at the joining.

B TVM shall fabricate bus body sidewall and roof panels with materials that are bonded or integrated such that the finished product will withstand vibration, and dynamic forces without delaminating, or cracking of either the interior or exterior skin over the minimum anticipated useful life of each vehicle (200K/7yrs). The TVM shall incorporate in each bus delivered body panel fabrication materials and processes that are the same as were used in the bus body make and model that was tested to fulfill FTA's Bus Testing requirements and tested by PSU at its Altoona, PA facility or shall obtain FTA approval of any changes it makes to the materials and fabrication processes used in constructing each bus.

C The roof shall be one-piece construction with no seams between the drip rails above the bus body's side windows, except at the front and rear end caps. Seams at the front and rear caps shall be as flush with the body as possible. Roof design shall be domed such that rain or snow shall not remain on the roof if a vehicle is parked on a flat surface. Drawings and specifications that clearly detail the roof design of the bus model being offered, the manner in which the roof is insulated and reinforced and the manner in which the roof is supported by sidewall framing constructed to support the roof and interior liner must be submitted prior to contract award.. Roof shall be of sufficient height to provide at least 74" headroom for the full width of the vehicle body. The roof shall meet or exceed static load tests for this type of vehicle. The vehicle must comply with the FMVSS 220.

D Body Interior: (See Interior)

E The insulation shall consist of a polystyrene composite placed in the ceiling and side walls with a minimum thickness of 1.50" and shall be nontoxic. A polyurethane-foam insulation material or 1" honeycomb resin is also acceptable. Batt insulation is not acceptable. The ceiling and all inside walls of the vehicle shall be moisture proof and be engineered to have excellent thermal and acoustic insulating characteristics. The body roof. Sidewall, end wall, and both the rear emergency exit and lift door insulating materials shall have a minimum rating of R-5.

10 BRAKES: Vehicle shall be equipped with 4 wheel disc anti-lock brakes. The braking system shall be heaviest duty available for the GVWR of the vehicle.

A Brakes should be capable of stopping a fully loaded vehicle at a deceleration rate equivalent to a 22 foot stop from a speed of 20 miles per hour. They must be capable of this type of stop 3 times in a rapid succession from a speed of 20 miles per hour without brake fade.

B Braking system shall comply with FMVSS-121 or FMVSS-105 as applicable.

C Parking brake shall be manually operated, should be located to the left of the driver, and activate the rear wheel brakes. The parking brake shall be capable of holding a fully loaded vehicle on a 15% incline. The system shall incorporate a warning light on the instrument panel to indicate to the driver when the parking brake is on.

11 BUMPERS; TOW HOOKS; and LICENSE PLATE BRACKETS:

A Shall be provided at both front and rear of the vehicle.

B Front Bumper: OEM Standard

C Rear bumper shall wrap around the body sufficiently to give protection against impact at the body corners. The rear bumper shall be engineered to be substantially more impact resistant than chassis OEM's standard, and shall be a Romeo Rim HELP or Transpec make and model, or approved equal.

D Tow Hooks: Below rear bumper tow hooks shall be provided that meet OEM standards.

E License Plate Brackets mounted on the front and rear bumpers. The front license plate shall be provided that is permanently affixed to the left (i.e. driver's side) of the front bumper's cooling vents. The rear license mounting bracket shall be provided for displaying the vehicle's rear plate and this bracket should be installed on the rear of the bus body and illuminated.

12 CHASSIS: Ford E-450 chassis (or equivalent) to meet payload requirements. If any other OEM's chassis has been the platform for a make and model that has both been Altoona tested and that has the capacity to transport the minimum passenger payload specified, detailed justification should be submitted if an approved equal or variance is requested.

13 COLOR:

A Exterior body surfaces shall be white in color conforming to the cutaway body color as supplied by the chassis OEM (designated as Ford Oxford White, Code YZ or very close match to these color designations by any other chassis manufacturer).

B Interior body surfaces shall be from standard options available from the TVM. Any interior paint used shall be high solids, low VOC, polyurethane satin enamel. Paint shall be applied in a clean and professional manner with no blatant evidence of overspray or painting over of decals or vehicle emblems.

14 CRUISE CONTROL: OEM, to be furnished as standard.

15 DIMENSIONS:

A Height (overall vehicle exterior): minimum 110", interior floor to ceiling height – minimum 74" at center aisle.

B Length (overall vehicle exterior): (from outside edge of front bumper to outside edge of rear bumper) minimum 295", maximum 305", passenger compartment length: (from driver's seat to emergency exit) minimum 148".

C Width (overall vehicle exterior): maximum 96", interior width at floor width (overall vehicle interior): minimum 90", interior width at seat level.

16 DOORS: Shall be as follows:

A All external doors, except for the front passenger service door and the rear emergency exit door shall be capable of being locked from the outside of the vehicle.

B PASSENGER Service Door and Stepwell. The vehicle shall be equipped with an ambulatory passenger service, two sections -- jackknife or split type -- entrance door located opposite the driver. The passenger service door must be: an electric two-piece school bus type split-leaf with curb vision windows and overlapping rubber seals with a manual override. The entrance door opening shall be a 30" horizontal clear opening measured between the handrails or the narrowest point between the door edges when open.

C The door framing and stepwell shall be stainless steel and powder coated, at least 36" wide and 80" high. Step treads shall be at least 8.5" deep. The entry step shall be 12" (plus or minus 1") above ground level and subsequent step riser's height shall be no greater than 10".

D Driver's Door and Running Board. A front-hinged, sedan type door with roll-down window and exterior key lock shall be provided at the left-hand side of the driver's seat. A driver's side 8 to 11-inch tapered running board shall also be provided with the wide end below the door latch. Running board shall run from the front wheel mud flap to a minimum of at least 4 inches past the back of the driver's door. Running board shall be supported to the vehicle in three locations (front, center, and rear). Support brackets shall be galvanized angle iron, minimum 3/16" x 1 ½" x 1 ½". Support brackets shall extend a minimum of 10" under the running board and shall be mounted to the frame or the body of the vehicle.

~~E~~ Lift Access Doors: Next to the Passenger Service Door shall be two doors that provide access to mobility aid users or standees who request to use the vehicle lift. The lift opening shall have a clear height of 68" and width sufficient to stow the lift specified. Doors for the lift access shall be hinged at the side, which fully-seal the opening when closed. Provision shall be made for fastening the doors in a wide-open position. Doors shall be equipped with an exterior key locking device and outside handles. Lift access doors shall be a double out door design with gas cylinders capable of holding the doors in the fully open position when the lift is in use. The door latch shall control the upper and lower slam type or 3 point latching system to insure a positive latching and sealing around the door's periphery. The doorframe shall be constructed of powder coated, stainless steel with sufficient strength to support the both lift doors and the lift~~. The wheelchair lift doors shall have outside latches.~~

17 Rear Emergency Exit Door (REED):

A Each bus shall be equipped with a rear emergency exit door that is:

B Constructed, framed hinged and sealed in a manner that conforms to FMVSS 217 standards for a commercial buses.

C Frame attached to the bus body using a durable stainless steel piano or strap type hinge.

D Frame fabricated in a manner that permits removal, repair and reinstallation if damaged.

E Mounted within a door frame opening that is centered relative to the rear of the bus body and provides a minimum overall clear opening width of at least 30 inches and a minimum overall clear height of at least 51 inches, measured vertically from the top of the door threshold to lower edge of the door lintel (Note: seating adjacent to the door must allow an aisle that is not less than 14" wide).

F Frame, rugged, corrosion resistant, and latches to a stainless steel, powder coated frame.

G Designed to open outward and be operable from both the interior and exterior of the vehicle.

H Frame and door sealed to withstand temperature extremes, corrosive road spray and dust.

I Mounted such that the base of the door compresses against a doorway entrance threshold that has topside that is nearly flush with the interior flooring overlay and permits the door to be clear the OEM or Romeo Rim Bumper.

J Electronically interlocked with the vehicle ignition switch such that, the vehicle will not start. The interlock shall activate an audible warring buzzer and visual indicator light alarms in the driver's area that is triggered when the door is either unlocked or ajar. Both the audible and visual indicators shall actuate when the door is opened more than one inch.

K Latch or locking mechanism shall have a quick release feature that has a non-recessed exterior handle that is, highly visible, designed to prevent rattling, and has an interior handle that is red in color and capable of overriding the security lock. (Note: door latch design shall not entail a keyed mechanism but shall be lockable from the vehicle interior.)

L Equipped with gas cylinder(s) to automatically open the door when the latch is released and prop or secure the door in the full open position against wind buffeting or when the vehicle is parked on a sloped surface.

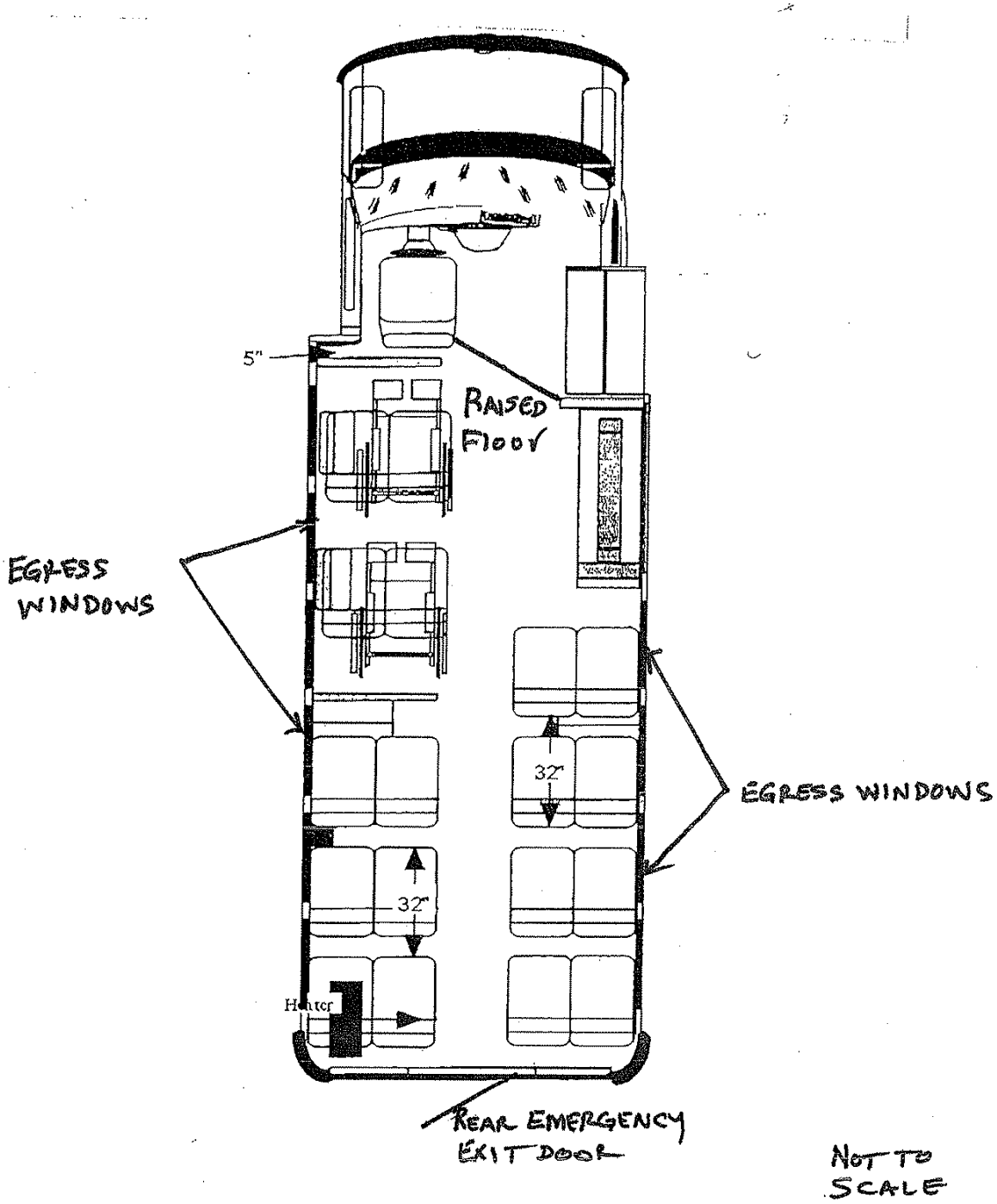
M Equipped with two fixed windows, an upper and a lower, each is to have clear tempered or laminated glass glazing to permit rearward driver visibility from the bus interior to its exterior.

N Sign conspicuously signed as an “EMERGENCY EXIT” in the interior and “EMERGENCY DOOR” on the bus exterior with both signs using red lettering that is not less than two inches in height.

O Sign made visible by an illuminated interior “EXIT” sign above the door with lettering 2” or greater in height that shall be illuminated whenever the engine is running.

P Sign operable following instructions for its use that are affixed in a highly visible location inside the vehicle, near the door.

18 DIAGRAM OF VEHICLE - Floor Plan:



19 DRIVER'S SHIELD: The shield shall be a tinted Lexan or Evionics, barrier shall be provided behind the driver and extend from the stanchion crossbar behind the driver to a point approximately 12" from the ceiling. This barrier shall be least ¼ inch thick. A 1½ inch clearance between the stanchion and barrier should be provided to allow a hand hold.

20 DRIVER'S SIDE DOOR ENTRANCE STEP/ RUNNING BOARD: At driver's side door, an entrance step shall be provided having an effective tread area of at least 10" by 15", measured from the design line of the vehicle. This step shall be provided in addition to any existing OEM step already on the vehicle. This step shall be of metal construction and have a non-slip tread. It shall be securely attached to the vehicle and protected from splashing by the wheels. (see also 16 D)

21 DRIVESHAFT: Must be properly supported, balanced and guaranteed not to vibrate. A metal driveshaft loop or loops must surround it to protect the vehicle in case of universal joint or other driveshaft failure.

22 EMERGENCY EQUIPMENT: The vehicle shall be provided with the following Emergence Equipment that is located in a positions that are easily accessible to the driver:

- A First Aid Kit. A 12-unit first aid kit provided with instruction for the use of its contents shall be securely mounted in a location readily accessible to the driver. Kit shall be an all in one First Aid-CPR-Clean Up kit such as the Swift First Aid kit 35-T170 or 35-TP195, or equivalent. Kit shall be contained in a metal or plastic box designed to seal out dirt and moisture, and shall have a carrying handle and sturdy mounting bracket.
- B Fire Extinguisher. A UL approved fire extinguisher shall be bracket mounted in a location readily accessible to the driver. Size shall be no less than five-pound with a total rating of not less than 2A, 10-B:C or UL approved equivalent.
- C Warning Devices. A kit of three folding bi-directional emergency reflective triangles that conform to the requirements of FMVSS No. 125 shall be provided.
- D Safety Vent. A Dual Purpose Safety Low Profile roof vent shall be provided. Safety vent exterior height shall not exceed 1" above vehicle roof. This will be mounted and sealed according to the directions of the manufacturer near the rear of the vehicle.(See also Spec 47 for details)
- E Bloodborne Pathogens Kit. Kit will be provided with a minimum of the following items. Latex Gloves 2 pair), CPR Mask, Goggles, Apron, Disinfectant Wipes, Absorbent and Scoop, and an I.D. tag and 2 red plastic bags with ties, high absorbency towels, paper towels, can of germicide cleaner, and congeal spill powder.
- F Drag Blanket. An E-Vac-Aid (or equivalent) type of heavy-duty drag blanket with built-in handles to assist in evacuating mobility impaired passengers under emergency conditions.
- G Webbing Cutter

23 ENGINE, DIESEL: Minimum of 6.0L Diesel with 235 horsepower and 440 foot-pounds of torque.

24 ENGINE-BLOCK HEATER: A 750 watt (minimum) OEM equipment engine heater shall be provided to assist cold weather starting. It shall be mounted in a manner that the wiring will not contact hot engine parts. The exterior plug must have a cover to prevent the entry of water. The plug-in must be accessible from outside the vehicle.

25 EXHAUST SYSTEM: The exhaust system shall be as follows:

A A heavy duty, corrosion resistant exhaust system which meets or exceeds FMVSS and EPA noise level and exhaust emissions (smoke and noxious gas) requirements.

B The tailpipe shall terminate behind the left rear wheel and shall be directed away from the curb. The exhaust pipe shall be deflected down toward the street.

C Exhaust shall be securely attached to the chassis frame.

D Any modifications to the DPF exhaust system must be approved by the OEM chassis manufacturer.

E No body installations or components shall restrict access to the DPF unit, which requires periodic servicing.

26 FAST IDLE: A fast idle system shall be installed which will automatically increase the engine speed to approximately 1200 RPM. This fast speed idle shall engage when the vehicle is in 'Park'.

27 FLOOR RAISED:

A Vehicle is to be constructed with a raised floor such that chassis wheel wells do not protrude into the bus body, The vehicle's floor shall permit capacity for securing a minimum of two, and if selected options that increase capacity to three and four mobility aid users. The riser to the "flat floor" passenger area of this vehicle must be designed in such a way that there are not "foot catching" obstructions that would pose tripping hazards to passengers. Likewise, the floor shall be designed and installed in such a manner that any additional step beyond the passenger entry door stepwell minimizes the potential for passenger tripping. This shall include but is not limited to color contrasting edging of the transition from the vehicle entry area to the flat floor surface. Note: the transition edge of the raised passenger area floor may be used as the "standee line" if this edge satisfies the specification detailed below.

B Underlayment: the passenger area of the vehicle shall be fabricated using flooring underlayment that is a 3/4" thick (minimum) Space Age Synthetics board model 2611 or product with comparable r-value, strength, and other features that will assure that the bus is compliant with FMVSS 302. The floor should be fire retardant and securely bolted to the vehicle sub-floor.

C Covering and Coving: Passenger compartment floor is to be covered with a vinyl slip resistant floor covering comprised of aluminum oxide, silicon carbide and imbedded with PVC chips throughout. Coving material is to be installed in a manner that forms a water and dust tight seal with the floor underlayment and covering. The coving shall be backed with a poly vinyl chloride material that will provide rigidity and be assembled in a manner that presents a smooth and durable transition from the floor covering to the passenger area sidewalls.

D Bacteriostats will be incorporated though out the vinyl covering. (Note: Top coating is not acceptable).

E The covering shall meet or exceed FTA's minimum static coefficient of friction, (i.e. .06) under wet or dry conditions pursuant to regulations under the Americans with Disabilities Act..

F If floor covering is used as coving between the floor and the wall mounted seat track, it must be supported with a backing material.

G Floor covering shall be a minimum 2.2 mm thick and must be warranted for a minimum of 10 years in a manner that meets or exceeds the warranty of Altro for its Transflor Meta, products.

H Backing of a fiberblass reinforced, polyester/cellulose material shall be used as a center scrim between the floor covering and underlayment.

I The floor covering color shall be a light grey or blue (903 Storm or Chroma 222 Wave Blue by Altro or approved equal) color to match or complement the passenger seat frames and/or upholstery.

J Floor covering shall be cemented to the floor following the floor covering manufacturer's recommendations for installation and adhesive to prevent bubbles and blisters which could create a safety hazard. All seams are to be heat welded to form a waterproof seal against moisture and dust infiltration. No cross-joints in the flooring will be allowed. The exposed edges of the floor underlayment and vinyl covering at all entrances shall be trimmed with metal-edge trim, securely fastened.

K All step edges, thresholds and the bearing edge shall have a band of color(s), running the full width of the step or edge which contrasts from the step tread and riser, with either a light-on-dark or dark-on-light color scheme.

L Standee Line: A yellow safety vinyl standee line, that is a minimum of 2" wide and aligned with (i.e. drawn through) the rear of drivers seat back shall be installed consistent with the FMCSA's standee line regulation such that it is perpendicular to the longitudinal access of the bus as detailed under 49 CFR Section 393.3. This regulation prohibits persons from occupying any of the space forward of this standee line when be bus is in operation.

28 FRAME: Shall be constructed of sufficient weight and strength to support the maximum GVWR specified by the manufacturer. FSM shall only lengthen frame by following Chassis OEM guidance.

29 FRONT AND REAR AXLES: Group A. Capacity of front axle will be heavy duty to be not less than 5,000 pounds and rear axle will be heavy duty to be not less than 9,500 pounds. Rear axle to be equipped with dual rear wheels. Rear axle differential shall be Limited Slip Differential unit, standard. Group B. 4,500 Front and 9,000 Rear.

30 FUEL TANK: 40 gallon (minimum) installed fuel tank, which meets EPA and CARB standards.

31 Group A. G.V.W.R.: Minimum of 14,500 pounds or higher (Group B. 14,050) if required to support the loaded weight of the completed vehicle including any optional equipment selected. It is the bidding manufacturer's or dealer's responsibility to calculate the actual loaded weight and to provide a heavier tire, wheel, spring, and axle combination if required.

32 HANDRAILS (See Passenger Assists)

33 INSTRUMENTS: The following instruments shall be located in the dash, in clear view of the driver: amp. indicator, coolant temperature, oil pressure & fuel. The instrument panel shall be properly illuminated for nighttime viewing.

34 INTERIOR:

A Shall have full trim including full length one-piece or sectional headliner, side and rear lower panels and window molding. Inner lining panels shall be gel-coated fiberglass reinforced plastic. Wood or fiber panels shall not be used. To minimize the need for vertical seams, all interior panels shall extend full-length longitudinally, where practical. Where seams are unavoidable, all exposed edges shall be beaded, hemmed, or flanged with the rearward components lapped over the forward components.

B Panels should be a satin or pebble finish, with backing and/or fiberglass reinforcement to withstand temperature extremes without damage, cracking, or deformation. Fabrication of interior surfaces must use panel materials that are readily available, and repairable. Cloth or carpet covered wall panels will not be acceptable. All interior panels shall be flame retardant, nontoxic, and meet FMVSS 302. Any interior paint trim shall use a high solid, low VOC polyurethane enamel or items shall be powder coated with a highly durable material.

35 LABELING: See Section 50 SIGNING

36 LIFT: An electro-hydraulic or electro-mechanical powered mobility aid user lift, such as Braun Millenium Model NL919F1B3454-2 or approved equal shall be installed aft of the passenger entry stepwell. The lift shall be mounted on the curbside of the vehicle and be accessible via access doors.

A The lift shall have a platform, which can be raised and lowered, to a fully cantilevered position, and platform is to be of sufficient strength to support an 800-pound load. The lift shall be mounted on the vehicle in such a manner that cutting of structural members is not required, and also the lift shall be constructed so as to clear the side of the vehicle without extensive, if any, structural body modifications. The lift platform shall have a provision for mechanically (interior & exterior roll stop barriers) holding the wheelchairs in place as they are raised or lowered. The lift must meet all ADA requirements as delineated in the Federal Register, Part IV, Department of Transportation, 49 CFR Parts 27, 37, and 38, Transportation for Individuals with Disabilities; Final Rule, Friday, September 6, 1991, and the FMVSS regulations as delineated in the Federal Register, Part IV, Department of Transportation, 49 CFR Part 571, Federal Motor Safety Standards; Platform Lifts Systems for Accessible Motor Vehicles, Platform Lift Installation on Motor Vehicles; Final Rule, Friday, December 27, 2002. Platform shall have a usable minimum width of 34 inches and a minimum depth of 54 inches. WARNING: Failure of the lift to meet the ADA and FMVSS requirements will be cause for the vehicle to be rejected. Power unit shall be 12-volt electro-hydraulic operated. Power unit shall be capable of operation in temperatures to –20F degrees and shall be readily accessible for maintenance. The lift shall be equipped with a hand pump for powering lift up and down in the event of power failure. Throughout the range of lift operation, all edges of the platform surface and the visible edge of the vehicle floor or bridging device must be outlined in a minimum of 1 inch wide outlines that contrast greatly with the background color (e.g., bright yellow outlines on a black platform surface).

B Installation of the wheelchair lift assembly shall not cause excessive unbalanced loading of the vehicle. The installed lift shall be free from rattles and other objectionable noises in the stowed position when the vehicle is operated over rough roads. The design and installation shall minimize metal-to-metal contact points. If necessary the bidder shall supply additional restraints or padding to ensure the quiet riding of the lift in the stowed position.

C The controls shall be interlocked with the vehicle brakes, transmission, or door, or shall provide other appropriate mechanisms or systems to ensure that the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks or systems are engaged.

D The mobility aid user (e.g. wheelchair) lift doors shall be double out doors, capable of being locked from the outside. Lift shall be mounted on the curbside of the vehicle, next to the passenger service doors and ahead of the rear wheel.

37 LIGHTS: Shall be as follows:

A Interior lighting:

1 Adequate and ADA compliant lighting shall be provided inside the vehicle in both the passenger and driver areas. All lighting controls shall be located within easy reach of the driver's seat. The interior lighting system shall provide bright floor surface illumination in the entryway and aisle, when required. A separate overhead lamp shall be provided for the driver's use. All lamps shall operate with or without the engine running, and the entrance steps shall be automatically illuminated whenever the entrance doors are open, day or night and conform to 49 CFR Part 38 Subpart B 38.31. A row of LED lights with a dome (or flush with surface) shall be provided above the passenger seats on both sides of each vehicle.

2 The step well of the passenger service door immediately adjacent to the driver shall have at least 2 foot-candles of illumination measured on the step tread when the door is open.

3 Other doorways, including the mobility aid user access doorway, shall have, at all times, at least 2 foot candles of illumination measured on the step tread, or lift, when deployed at the vehicle floor level. Each vehicle doorway, including the lift doorway, shall have an outside light(s) which, when the door is open, provides at least 1 foot-candle of illumination on the street surface for a distance of 3 feet perpendicular to all points on the bottom step tread outer edge. Such light(s) shall be located below window level and shielded to protect the eyes of entering and existing passengers.

4 A rear center high mounted stop or brake light) shall be provided and may be interior mounted for any vehicle ordered with a rear window in lieu of the rear emergency exit door specified (See B6 below).

B Exterior Lighting:

1 The exterior lighting system shall conform to the requirements of FMVSS No. 108 and 49 CFR Part 38 Subpart B 38.31.

2 Headlights shall be halogen capsules with aerodynamic covers.

3 All body mounted or TVM installed lighting fixtures shall be LED.

4 Light emitting diode (LED) type rear mounted red combination stop/tail lights shall be provided, twelve and one-half (12 ½) square inches of lighting area minimum per light. Lights shall be constructed of highly durable sockets and lights using Lumiled Luxeon model lights or approved equal.

5 Combination marker and clearance lights shall be LED-type, with highly durable sockets and lights, such as Lumiled's Luxeon model or approved equal documented to resist vibration, corrosion, and moisture as well.

6 Bus mid-body LED turn signals mounted on the left and right sides of bus body.

7 Center mounted, LED-type, rear brake light shall be provided above the rear emergency exit door that otherwise complies with requirements for said equipment on new passenger vehicles.

8 LED-type back-up, or reverse, lights shall be provided on each vehicle.

9 Emergency Hazard Flasher (a.ka. Four-way) unit provided must be a substantially more durable design than the OEM flasher on the steering column. Unit must withstand repeated daily use. Kaiser-Cadillac Groute flasher units are required unless an. approved equal request is accompanied by documentation that a flasher unit manufactured by some other company performs as well under intense commercial use on delivery-type vehicles and is approved

10 Emergency hazard flasher's wiring shall utilize the turn signal bulbs in lieu of the brake light bulbs and enable these hazard lights to continue to flashing when brakes are applied

38 MANUALS AS BUILT: The bus manufacturer shall provide one set of the as built bus manuals and parts manuals per vehicle, as well as warranty information and wiring diagrams.

39 MIRRORS: Shall be as follows:

A Rearview Mirrors.

1 Two (2) 7 inch x 9 1/2 inch rear view flat, clear view Rosco European fender mount mirrors shall be installed. To include turn signals in mirrors. The housing for these mirrors shall be flat black finished metal and mounted to the fender anchored under the hood to withstand daily automatic bus washing without damage, one on each side of the bus. Convex mirrors to be a 7 inch x 4 inch convex mirror in a flat black metal housing mounted below each of the flat rear view mirrors. Mirrors must comply with FMVSS. Mirrors shall be electrically heated and electrically remote adjustable from the drivers seat. Option pricing is requested for non-heated, non-remote adjustable manual version.

B Rear View Mirror attached to windshield.

1 One interior convex mirror shall be located above the windshield and shall be large enough to provide the driver with a full view of the vehicle interior (passenger compartment). Dimension minimums for this convex mirror are 6"(h) x 9" (w) to provide an optimal view of the passengers and roadway to the rear. This mirror shall have rounded corners and protected edges.

40 MODESTY PANELS: See Passenger Assists

41 MUD FLAPS: Mud flaps front and rear are required and must be securely mounted.

42 PASSENGER ASSISTS: PADDED STANCHIONS (YELLOW), HANDRAILS, AND MODESTY PANELS:

A All stanchions and handrails shall be of 1 1/4 inches (minimum) diameter metal tubing, powder coated a bright yellow finish (to assist visually impaired passengers). Handrails shall be installed at the following locations.

B Handrails shall have a cross-sectional diameter between 1 1/4 inches and 1 1/2 inches or shall provide an equivalent grasping surface, and have eased edges with corner radii of not less than 1/8 inch. Handrails shall be placed to provide a minimum 1 1/2 inches knuckle clearance from the nearest adjacent surface.

C Handrails and stanchions shall be sufficient to permit safe boarding, onboard circulation, seating and standing assistance, and alighting by persons with disabilities.

D Interior handrails and stanchions shall permit sufficient turning and maneuvering space for wheelchairs and other mobility aids to reach a securement location from the lift or ramp.

E Handrails and stanchions shall be provided in the entrance to the vehicle running parallel to the steps in a configuration which allows persons with disabilities to grasp such assists from outside the vehicle while starting to board, and to continue using such assists throughout the boarding process. (Including handrails provided at the right and left of the entrance door, handrail mounted on the modesty panel, handrail at the top of the entrance steps on the right side and continuing throughout the boarding process).

F Entrance handrails shall not be padded.

G All stanchions and handrails extending from the vehicle walls to the stanchions should be covered with impact absorbing material at least 3/8" thick.

H A stanchion from the floor to roof shall be installed on the interior left side of the front passenger door approximately 14 inches inside the vehicle. A horizontal handrail shall be installed between the stanchion and the right wall approximately 30 inches above the floor.

I A stanchion shall be located just behind and to the right of the driver's seat's back rest. A handrail shall extend from the stanchion to the side wall of the vehicle behind the driver's seat. The stanchion and grabrail shall not interfere with: a) rearward travel of driver's seat adjustment; or 2) interfere with the space required to comply with the ADA mandated minimum mobility aid user position (MAUP) length requirement of 48". To satisfy the MAUP length requirement it may be necessary to use space under the modesty panel or the reclined back of the driver's seat.

J Per Section 38.23(d)(2) of the ADA regulations, it is permissible that up to 6" -- at the front of the MAUP -- be located below the seat or stanchion in front of that MAUP "provided that there is a minimum of 9 inches from the floor to the lowest part of the seat" or any other obstruction overhanging the front-most 6" of a particular MAUP's space. As such, the shape of the vertical stanchion adjacent to the driver at any point up to a minimum of 9" inches above the vehicle floor must be such that neither the location of the floor attachment for nor the stanchion itself impedes or interferes with movement of a mobility aid user or the footrests of that person's mobility aid.

K To preclude interference with positioning by mobility aid users into a securement location, it may necessary to “dog leg” the shape of the lower section of this stanchion. Without a “dog leg” stanchion shape near the floor, this stanchion may interfere with MAU's positioning or footrests. And, in some vehicles it may not be possible to satisfy the 48" MAUP length requirement without having the lower section of this stanchion "dog-legged" forward in a manner that does not intrude into the 9" of clear unobstructed area required for the front most 6" of the MAUP. It is essential that the stanchion adjacent to the driver’s seat have a shape and floor attachment that is located at a point that does not obstruct any part of the area ADA requires for the MAUP located nearest the driver.

L A driver’s shield shall be mounted to the upper portion of this stanchion above the horizontal grabrail (see DRIVER’S SHIELD). A modesty panel shall be installed below the horizontal grabrail. This modesty panel shall permit space for mobility aid user’s to position their feet below the lower edge of the panel.

M A grab point shall be provided on top of each passenger seat to assist passengers in being seated or in rising from a seated position.

N Modesty panels shall be positioned at the rear edge of the passenger service door step well and rear of the lift door. These panels will be supported by the vertical stanchion at the inner rear corner of the step well with a rail running from that stanchion to the wall at windowsill height, and the modesty panel installed therein. Panel shall have no less than 1 1/2" between the bottom of the panel and the floor to facilitate cleaning of the floor. Fastening of the panel shall be by bolts or rivets, screws will not be acceptable.

O All stanchions and handrails shall be securely attached to a structural support member where possible, other wise to the vehicle floor, ceiling, and/or wall. Attachment to the floor is to be with bolts, washers, and nuts treated or coated so as to be rustproof. The use of screws to anchor the stanchions to the floor is not acceptable. Additional stanchions and handrails may be added as deemed necessary for safety and mobility purposes. The location of stanchions and handrails shall be shown on the proposed seating plan.

43 PASSENGER SEATING CAPACITY:

A The vehicle must be capable of accommodating a driver, two mobility aid users, (using “standard” wheelchairs with seated passengers, and no fewer than fourteen (14) ambulatory passengers seated in regular passenger seats installed as specified.

B The mobility aid user positions shall be located directly behind the driver. Two, two passenger, fold up, forward facing seats shall be installed on the left side of the mobility aid user positions that will accommodate ambulatory passengers when one or both of the MAU positions is not occupied.

C Vendors are invited to bid vehicles configured with different seating and lift placements (i.e. floor plans) in lieu of the BID ITEM floor plan as options.

44 PASSENGER RESTRAINTS for MOBILITY AID (MA) USERS and MA SECUREMENT SYSTEMS:

A Each of the mobility aid (MA) user positions (i.e. 2) required shall be equipped with a passenger restraint and mobility aid securement (i.e. tie-down) system. The system supplied shall offer safety and ease of deployment features that are offered by Q-Straint’s QRTMAX model.

B Anchorage points on the bus sidewall and floor shall use permanently installed L Track that may also be used to mount the ambulatory passenger seats in the floor. The anchorage fitting used to attach each retractor to the L-Track shall be a four-stud fitting with a double-stud plunger that each retractor is attached to. Horizontally above windows with length not less than 108" offset 12" - 16" rearward from the floor 'L' track end point.

C The restraint system for each mobility aid user shall be self-retracting to prevent tripping hazards, belt damage, or contamination.

D The securement system for each mobility aid (e.g. wheelchair) shall be self tensioning and self-locking using retractors (i.e. without tightening knobs). The system required must retract belts used such that each is out of the way when not in use. L-Track securement sections must be recessed below the surface of the floor to minimize tripping hazards and track edges shall be filed or edges trimmed to provide a neat, clean appearance. Belt/track equipment must meet FMVSS 208, 209, and 210.

E Securement device shall remain in the locked (latched & secured) position under all normal and crash conditions.

F Each wheelchair location shall be equipped with pelvic-high, lap-type safety belts to secure the passenger in wheelchair. The safety belt shall conform to FMVSS No. 210. Each mobility aid user position location shall provide for forward facing of MA users (e.g. wheel chairs). Vendor will supply written or video instructions on the use of the restraint system.

G Mobility aid user positions and optional fold-up seats should be interchangeable with maximum ease and safety to both ambulatory and non-ambulatory riders.

45 RADIO and SPEAKERS:

A Electronic AM/FM stereo with CD and clock radio, OEM (or Equal quality) dash mounted, with two (2) front speakers. Bus TVM shall install wiring from the OEM radio to two additional stereo speakers that are compatible with and that provide audio quality comparable to the OEM speakers within the passenger area.

B The speakers shall be positioned to provide balanced audio coverage within the vehicle. At least two speakers shall be mounted near the middle of the passenger area and protected from damage with a covered enclosure with all wiring shall be concealed. A balance control for the front and rear speakers shall be provided and located within easy reach of the driver.

C TVM shall install control to permit adjustment of sound volume independently for the driver and passenger areas.

46 ROOF HATCH: The vehicle shall be equipped with one roof emergency escape hatch. Hatch shall be a full pop-up, such as the Specialty Manufacturing Co. ProLo Model 9245 (or equivalent) with a height no more than one (1) inch above the bus roof. Roof hatch shall be installed by TVM using manufacturer’s suggested installation procedures. The hatch shall have a minimum opening of 23” by 23” and shall meet all FMVSS 217 requirements.

47 SEATING:

A Driver's Seat: Multi-position cloth covered (level 5 quality) driver's seat, such as a Recaro or Freedman 9500 series cut-away driver seat with a wide seat back, mechanically adjustable lumbar, infinitely adjustable back, adjustable headrest, solid pan backrest, bilateral adjustments, fore/aft adjustments, and front adjustable flip-up right side armrest or approved equivalent shall be provided. The three point, seatbelt assembly shall be a combination of pelvic and upper torso-restraint (Type 2) with retractors. The seatbelt assembly and seatbelt anchorages shall conform to the requirements of FMVSS Nos. 207, 208, 209, and 210. The seat shall include shoulder and lap restraining belt with retractor. The driver's seat must be fully adjustable its entire travel distance and not be stopped by the stanchion at the rear of the driver's seat or the passenger area floor behind the driver's seat.

B Passenger Seats (for Ambulatory persons): grade 5, cloth covered, passenger seats are required that are each equipped with flip up armrest, aisle side seat grab handles on top of mid-back or mid-hi seats with lumbar support mounted on L track that is recessed to be flush with the floor covering. Seat back height, measured from the top of the seat cushion will be a minimum of 22". Each seat back shall be recessed and covered with a vandal resistant "knee saver" panel. Folding arm rests are required on window side (except folding seats) and not on aisle. Grab handle is only required on aisle seat. 'C' track is approved as equal to 'L' track.

C Passenger seats shall be track mounted .The seats shall have mid-height seat back with lap belts for each passenger. Contoured seat and back cushion for comfort and support which includes standard top mount grab rail, such as the Freedman 3 point seats, or equivalent. Seats must have been tested to meet FMVSS 210.

D Fold-up seats shall be provided as shown in Specification 18. Diagram of Vehicle Floor plan to permit ambulatory passengers to be seated when one or both of the mobility aid user positions is not being used. Each fold up seat shall be forward facing and have a mid high seat back with an integrated, retractable lap seat belt.

E Option pricing is requested for integrated 3 point seat belt (shoulder and lap).

F Arrangement of seats shall be spaced to provide maximum seating capacity. The following dimensions shall be used:

1 14" minimum aisle
2 17" minimum rump room
3 29" minimum center to center seat row spacing

G A black plastic armrest must be provided at the aisle end of each fixed passenger seat. All material used in the upholstery of the seats shall meet FMVSS30L. All passenger seats must be the same color as the driver's seat. A detailed diagram of the proposed seating plan to be used in the bid MUST be included with each bid package. The proposed seating plan is to be considered standard equipment and its cost should be included in the base bid.

H Securement Positions for Mobility Aids (MA) and Restraint Systems for Passengers Using MAs: Each base bid must include a floor plan that provides two mobility aid user positions, a mobility aid user lift, two mobility aid securement systems and two mobility aid user restraint systems per specifications issued herein. Pricing is requested to be provided with each bid that would permit any vehicle to be ordered with an upgrade to the standard floor plan that provides three or more mobility aid user positions with a corresponding number of securement and restraint systems. Each mobility aid user securement position shall be forward facing per Specification 18 Diagram of Vehicle.

48 SHOCK ABSORBERS: Shall be heavy-duty and load rated, capable of controlling the ride when the vehicle is empty, as well as when loaded to the GVWR.

49 SIGNING: Signs or decals shall be placed in appropriate locations on each vehicle to clearly identify or announce:

A “Emergency Exit” Windows and Door, as specified herein.

B "NO SMOKING" (at least two (2) decals) one visible to passengers boarding each vehicle and the other visible to forward facing passengers.

C Two International Accessibility Symbol decals (approximately four (4) inches wide by six (6) inches in height depicting a passenger (white color) using a wheelchair against blue background) shall be provided for each vehicle. Vendor to deliver with vehicles for application immediately prior to acceptance. Placement must not distract from lettering/paint scheme.

D “PRIORITY SEATING” sign shall be furnished as required by 49 CFR Part 38 subpart B 38.27.and shall announce that:
"FRONT SEATS RESERVED FOR PASSENGERS WHO ARE ELDERLY OR DISABLED".

1 Decals with this reading shall be placed next to the front-most forward facings seats. Characters of these signs shall contrast with the background (light-on-dark or dark-on-light) and have a width-to-height ratio between 3:5 and 1:1 and a stroke width-height ratio between 1:5 and 1:10, with a minimum character height (using an upper case "X") of five-eighths (5/8) inch, with wide spacing (one-sixteenth (1/16) the height of an upper case "X" or greater) between letters.

E "MOBILITY AID SECUREMENT” locations decal sign shall be affixed on a highly visible flat surface near each wheelchair securement position shown in the seating layout for each vehicle. Characters on these signs shall be of the same size, spacing, and contrast as delineated for priority seating for persons with disabilities.

F "WARNING: ALLOW CLEARANCE FOR LIFT OPERATION" decal sign shall be prominently displayed in full view of persons standing outside the vehicle within ten (10) feet of the lift door.

G “SEATBELT USE REQUIRED” decal sign shall be displayed prominently.

50 SPRINGS: Front springs to be heavy duty with a capacity of not less than 4,200 pounds, rear springs to be heavy duty, minimum of 6,540 pounds. Springs should be adequate enough to prevent leaning or sagging, especially on the wheelchair lift side of the rear axle.

51 STEERING: To be equipped with OEM power steering with tilt feature.

52 STEPS and STEPWELL:

A The ambulatory passenger entrance step well shall have two or more interior steps below the floor level. Each step shall be a minimum of 18" wide and have a minimum tread depth of 9". Risers shall be equal with a maximum height of 9" (less if possible) and covered with Altro flooring (or equivalent).

B The steps shall be capable of supporting 500 lbs. of evenly distributed load in the center 10 sq. inches of each step.

C The stepwell and entry door surround shall be constructed of 10 gauge low carbon Austenitic 201, 304L, or Nitronic 30, stainless steel, adequately braced to prevent deflection and shall be an integral part of the basic vehicle structure.

D All step edges shall have a band of yellow vinyl, such as the Altro yellow safety vinyl (or equivalent), running the full width of the step or edge, which must contrast, with the step tread and riser.

E Edging is to be heat welded to the main floor and step tread to provide for a long lasting seam.

F There shall be no lip or overhang, on the edge where the riser meets the tread that would create a "toe-catching" condition.

G The first step into the vehicle shall not be more than 12" (lower if possible) from the ground when the vehicle is loaded to the chassis GVWR.

53 STORAGE AREA: Shall be within easy reach of the driver (behind seat is not acceptable), minimum of 15" L x 12" H x 4" D.

54 STANCHIONS: (See Passenger Assists)

55 SUSPENSION:

A FRONT SUSPENSION: Shall be chassis OEM with heavy duty shocks and stabilizer bar. Front end alignment will be required of the TVM after the bus is completed and prior to delivery to the customer. Adjustments shall be made based on full loaded vehicle to proper camber, caster, and toe-in as elements of the front end alignment. A dated and verifiable computer print out (i.e printed report) that details readings taken before and after the alignment has been completed shall be provided upon delivery of each vehicle.

B REAR SUSPENSION: Shall be OEM with stabilizer bar, OEM, IPD brand, or approved equal, and reinforcement to compensate for added weight of Mobility Aid User Lift on vehicles curbside.

56 THROTTLE: An auto-throttle system that senses when the electrical current draw exceed alternator and increases the engine idle RPM while the vehicle is stationary, transmission is in PARK, with engine idling..

57 TILT STEERING: OEM, standard.

58 TIRES: Seven (7) BSW all-season radials to meet the GVWR of the vehicle. Spare tire to be mounted on rim and provided loose in vehicle. The weight distribution of the vehicle with maximum load shall not load the tires beyond their rated capacity.

59 TRANSMISSION: The transmission shall be a heavy-duty automatic including overdrive, compatible with the engine specified.

60 UNDERCOATING: The entire body/frame under-structure of the vehicle shall be fully undercoated with nonflammable resin-type material, polyoleum, or the equivalent.

61 WARRANTY:

A A Bumper-to-Bumper Warranty shall apply to all vehicles and shall last for three years or 36,000 miles after delivery, whichever occurs first.

B Vehicles delivered by driving them (not to exceed 1,500.0 miles—see DELIVERY section) will have the warranty begin at the actual vehicle mileage at the time of final delivery at the purchasing agency's location.

C A properly executed warranty MUST be delivered with each vehicle.

D On-Site Repair Calls:

1 After the final acceptance of the delivered vehicle (which includes the thorough inspection and verification of equipment ordered and condition of the vehicle), and during the 3 year/36,000 miles after delivery bumper-to-bumper warranty period, the purchasing agency is allowed a maximum of two "on-site repair calls" as follows:

1. If warranty work is required that cannot be repaired through normal efforts by a local dealer at the purchasing agency's location, the purchasing agency will call the vendor, and the vendor must either.
   a. Send a service agent to the purchasing agency's location to repair the vehicle on-site, or Pick up the vehicle on-site and take it to the vendor's location, factory
   b. Other authorized repair location to be repaired and then return it to the purchasing agency's location.

2 The warranty work performed under these "on-site repair calls" shall be at no cost to the purchasing agency and should be conducted so as to minimize the vehicle's out-of-transit service time.

E All service called for in the warranty shall apply without exception. An owner's care book shall also be included with each vehicle. A copy of a detailed maintenance and inspection schedule supplied by the respective manufacturers of the vehicle and its subsystems (e.g. wheelchair lift, etc.) shall be included with each vehicle.

62 WEIGHT ANALYSIS: A weight analysis shall be submitted with each bid. This shall include the base vehicle weight and the weight of each of the optional items. Please use the enclosed form labeled "Weight Analysis" and submit it with the other bid documents. This must be included in order for your bid to be considered. Floor plans submitted with bid would be appreciated.

63 WHEELBASE: Minimum 176".

64 WHEELS: To be a minimum 16", seven to be furnished including dual wheels at the rear axle, and a spare-tire wheel. Wheels are to be powder coated, in a white, rust resistant, finish that is a close match the predominate color of the vehicle. (Painted wheels are not acceptable.)

65 WHEEL HOUSINGS: The housings shall provide ample clearance for operating the fully loaded vehicle with tire chains and with unrestricted steering. Splash aprons and fenders shall be provided if tires extend beyond the sides of the vehicle.

66 WINDOWS:

A Safety Requirements: All glazing materials shall conform to the requirements of FMVSS No. 205. All windows shall conform to the requirements of FMVSS No. 217, and emergency egress shall be provided as specified in that standard.

B Passenger compartment windows provided the full length of the vehicle will be 24" wide by 30" (minimum) smoked tempered safety glass. One egress window will be provided per side equipped with emergency release latches to provide emergency exits. Release instructions will be provided at or near the release handles.

C The rear emergency exit door window will have smoked tinted tempered safety glass and will have a Van Guard Lens affixed.

D Factory tinted windows should be used instead of after market add-on film. The total light transmission of all passenger compartment windows, including the rear window, shall not be less than 35% when a sun screening device is used in conjunction with safety glazing materials or other existing screening devices. (This means that a minimum of 35% of the light shall be transmitted through to the passenger compartment of the vehicle, with a maximum of 65% of the light being reflected back to the exterior of the vehicle.)

E Side Windows. In passenger area shall be top T-side, type to allow for ventilation and provide a clear view to the outside All side windows shall be easily replaceable without disturbing adjacent windows and will be mounted so that flexing or vibration from engine operation or normal road noise is not apparent. All side and rear passenger windows shall have black anodized aluminum frames and weep holes for moisture on the body exterior.

F Curb Side Blind Spot Window(s). Fixed, tempered glass, right-side window(s) is/are required in front of passenger entry door to improve driver visibility to the right, and near the curb. A diagram of this window(s) and location may be submitted for review at the request for approved equal's stage, but must be submitted and approved by the Procurement Administrator prior to contract award.

67 WINDSHIELD: Laminated, tinted and in conformity with Federal safety requirements. The windshield will permit a driver's field of view as referenced in SAE recommended practice J1050. The driver's side window shall open sufficiently to permit the seated driver to easily adjust the left outside rear-view mirror.

68 WINDSHILED WIPERS, WASHERS, AND FLUID RESERVOIR: Dual, electrically driven wipers (with intermittent and other speed settings) and washers shall be furnished, and the washing fluid reservoir shall have a capacity of no less than one quart.

69 WIRING AND SCHEMATICS: Detailed wiring schematic for chassis as well as the bus body shall be provided. The wiring shall be as follows:

A All general purpose wires shall be vinyl insulated, and shall be of OEM quality and gauge or equivalent. All wiring shall meet SAE standards, and shall be color coded and number coded at least every eighteen (18) inches and permanently labeled to identify their function. Battery cables shall be l/0 gauge with minimum of 0.075" wall plastic insulation. All wiring shall be of sufficient size to carry the required currents without excessive voltage drop. All wiring shall be run inside the body in a protected area. All wiring shall be in a loom and securely clipped for maximum protection. Clips shall be rubber or plastic-coated to prevent them from cutting the wiring insulation. Any electrical connections exposed to the elements must be of a waterproof design. Convoluted (black plastic loom type) tubing may be used but should not be considered waterproof.

B Circuit box for fuses and relays (other than chassis OEM): fuses and relays shall be placed in a single circuit box which is easily accessible. The circuit box shall be conveniently mounted and have a secure cover. Inside the circuit box cover shall be a legend identifying each circuit and wire by color, number, function, and location. This legend shall be permanently mounted.

70 GROUND PLANE AND ADDITIONAL WIRING: shall be installed for future installation purposes of a two way radio system. Circuits shall include a ground plane, and shall consist of one fused 20 amp positive lead and one negative lead. Positive circuit shall have power only when the OEM ignition key is in the ON or ACCESSORY position.

71 MISCELLANEOUS TECHNICAL SPECIFICATIONS:

A There shall be no sharp corners on the unit. All corners shall be slightly rounded and filed smooth.

B All welds shall have 100% penetration. All welds shall be free of slag inclusions and undercut. Filled weld sizes shall be equal to the thickness of the least of the joined plates.

C All material installed shall be new and free of rust.

D No wires shall be visible on the exterior or interior of the vehicle. All under-carriage wiring shall be contained in adequate housing so as to prevent damage from the elements, especially mud, snow and salt.

72 DELIVERY:

A The vehicle shall be delivered F.O.B. to the destination shown on the purchase order, fully equipped in accordance with the specifications and proposal.

B All deliveries shall be made between the hours of 9:00 a.m. to 12:00 noon or 1:00 p.m. to 4:00 p.m., Monday through Friday, except for holidays.

C Prior notice of intent to deliver vehicles must be given, at least 5 days in advance, to the contact person designated by the transit agency on its Transit Equipment Purchase Contract or its Purchase Order during normal business hours.

D Failure to follow prescribed delivery procedures may result in at least a 2-week delay in payment by the transit agency.

E Certificates of Origin for the chassis and the bus body and invoice must be sent to the organization named on the purchase order before delivery is made or must be delivered with the vehicle. Certificate of Origin must show the legal name of the purchasing agency. .

F The vehicles are to be delivered having been properly serviced, including all lubricants (grease and oil) and fluids filled to the proper level. Properly serviced shall mean the doors shall have been checked and properly adjusted, fittings are all accounted for, and all other mechanical adjustments made, so that the vehicle is fit for service.

G Factory pre-delivery service, or any other delivery service, is acceptable only when equivalent to that offered by the dealer to his regular retail customers. After the vehicle has been serviced, the dealer may make delivery by driving or truck transport delivery (see below). Delivery by any method other than detailed below is not acceptable.

H Vehicles may be driven up to 1,500 miles (not to exceed 1,500.0 miles on the new vehicle's odometer) from the factory or dealership to the final delivery point at the purchasing agency's administrative headquarters or other address detailed in the transit equipment purchase contract (TEPC) issued. Provided that the original factory warranty and any other applicable new vehicle warranties begin at the actual vehicle mileage at the time of final delivery at the purchasing agency's designated delivery location.

I Any deliveries exceeding 1,500.0 miles must be transported to the final delivery point at the purchasing agency's location by truck (not driven). Deliveries over 1,500.0 miles by any other method are not acceptable. When making truck transport delivery the dealer or his authorized representative (which may be the truck transport delivery driver) must be present and able to sign receipts, supervise unloading, and deliver the vehicle (complete with warranty) to the address shown on the TEPC or purchase order.

J The truck transport delivery driver or other authorized representative present at the time of delivery must be able to educate the purchasing agency on the vehicle's features and must be able to demonstrate the vehicle's subsystems and equipment.

K At time of delivery the fuel tank must be at least one-fourth (1/4) full as indicated on the fuel gauge. If dual gasoline tanks are used, the vehicle must have at least one-fourth (1/4) tank in each tank or one-half (1/2) in one of the two tanks. All vehicles shall be delivered with adequate radiator protection to at least –20 F degrees below zero.

73 SUPPORT BID DOCUMENTATION: The following materials MUST accompany each bid. The omission of any of these materials may result in rejection of the bid.

A Seating plan - including the placement of stanchions and handrails.

B Delineating maximum seating arrangements (to scale and labeled) and placement of stanchions and handrails.

C Wheelchair placement and seating arrangements (to scale and labeled) and placement of stanchions and handrails. Provide floor plan for two, three and four mobility aid user (e.g. wheelchair user) positions.

D Warranty for vehicle and its subsystems.

E Color chart.

F Signed copies of all applicable pre-award certifications.

G Listing of all exceptions (and reasons of exceptions) to bid specifications.

74 SUPPORT DELIVERY DOCUMENTATION: The following materials MUST accompany each delivered vehicle. The omission of any of these materials may result in the vehicle not being accepted.

A Warranty for vehicle and its subsystems.

B Owner's Manual.
C A copy of a detailed maintenance and inspection schedule for the vehicle and subsystems.
D List of warranty stations available in the State of Iowa and others that may be available to transit agencies that operate in Iowa counties that border other states.
E A label placed on the inside of the glove compartment or driver storage area of the vehicle giving a telephone number to call for technical assistance regarding the vehicle (ideally, the number should be toll-free).
F Details on the as-supplied specifications for the alternator, rear heater unit, rear air conditioning unit, and both batteries (listed individually).
G Written or video instructions on the use of the wheelchair restraint system.
H Written instructions on how to engage wheelchair lift with the interlock system.
I Written or video instructions on how to use the roof ventilator.
J "As built" electrical manual.
K "As built" parts manual.
L Alignment Report.

SPECIFICATIONS
FOR
OPTIONAL ITEMS
ON THE
CUTAWAY VAN CHASSIS COMPOSITE/FIBERGLASS BUS

OPTIONAL ITEMS:

1 BUMPER ALTERNATIVES;
- A Substitute HELP type front bumper for OEM standard.
- B Substitute FSM standard rear bumper for HELP high impact resistant rear bumper specified, Finish may be chrome plate, anodized aluminum or powder coated with a finish color that matches the bus body.
- C Upgrade rear HELP bumper to include Intermotive H2 Hawkeye Reverse Assistance. SENSING SYSTEM: An audible warning signal that alerts the operator to the presence of an obstacle in the monitored zone. The audible signal is designed to intuitively represent the location of an object in the monitored zones. Echovision EBD0225 (or equivalent). Vendor shall submit description, warranty information and literature information of the product with the bid.

2 BODY LENGTH REDUCTION/BOB TAIL BODY: Substitute bus body of less overall length than minimum specified i.e. less overhang beyond rear axle than the manufacturer's standard body. Include in pricing the pricing deductions to reduce passenger seating by up to four ambulatory passengers.

3 CHILD RESTRAINT SEAT(s): C. E. White or Freedman make Integrated Child Restraint two passenger Seat, 36" (or equivalent). Pricing is requested both for substitution of:

- A a) a seat with one integrated child restraint position located in the "window" passenger position in lieu of one of the fixed, track mounted two passenger seats specified;
- B b) a seat with two integrated child restraint positions in lieu of one of the fixed, track mounted passenger seats specified.

4 DRIVER SEAT VINYL COVERED: Chassis OEM high back 6-way power seat with heavy-duty vinyl covering ILO driver seat specified. The upholstery covering color of the driver's seat shall be complimentary to the vehicle's interior color and the other passenger seats (i.e. blue seat with blue upholstered passenger seats).

5 EMERGENCY EXIT WINDOW (Rear): Emergency Exit window, ILO Rear Emergency Exit Door (SEE: DOORS specifications).Note: OPT must approve of this substitution for any Section 5311 recipient. A rear window surface area of no less than 90 square inches shall be provided and must provide emergency egress from the vehicle.

6 ENGINE: Shall be minimum of 6.8L V10 (gasoline) engine, under Chassis designation 63N, ILO diesel, and will include an oil filter, air cleaner, and the heaviest duty cooling system capable of providing sufficient cooling capacity for the operation of all the air conditioning equipment contained in these specifications. Alternator shall be 195 amp (63N) ILO base vehicle specifications.

7 ENTRANCE DOOR (MANUAL): Substitute a manual door actuation mechanism ILO the electrically operated door specified. The entrance door clearance width must be a minimum of 29" at any point of the entrance door. Door must be capable of being manually operated with an over -center linkage of the self-locking type, and shall be easily operated by the seated driver with seat belt fastened.

8 SEAT BELT EXTENDER (FOR FREEDMAN SEATING): If you are providing the Freedman 3 pt seats, there is an 8 inch extra length seatbelt extender available that has been safety tested. The part number is 73080 and these can be ordered from Freedman at the time the seats are ordered. If you are providing a seat from another manufacturer, please contact your supplier for details regarding belt extender availability and other product information prior to bid submission.

9 EXTRA LENGTH SEAT BELTS: Wall positions to be equipped with seat belts of a length to fit around large adults. Shall also include extender-type adapters (per C.8. above) so as to additionally lengthen the extra length type lap belts. Price bid should be for each seating position.

10 FIXED ROUTE PACKAGE: Vehicle shall be equipped with the Following:

- A Passenger signal system that consists of a chime or buzzer actuated by means of a pull cord located on both the left and right interior sidewalls above the windows or pressure sensitive tape strips attached below the windows.
- B This signal system shall be driver controlled by switches mounted on a panel that are within the driver's reach while seated.
- C A separate signal with a distinctively different chime will be provided for persons using any of the positions for securing mobility aids.
- D The pull cord for mobility aid users or pressure sensitive strip is to be mounted greater than 15 inches but less than 48 inches from the floor.
- E Destination signs:
  - 1 One front (above the windshield) and one curb side destination sign shall be provided; both shall be of the single curtain type with electric drive mechanism, stop limit relay and idler roller.
  - 2 Both signs will be illuminated by fluorescent or incandescent light with a switch that is independent for the bus interior light circuit.
  - 3 The interior cover enclosing the destination sign compartment shall be attached to the vehicle using a piano type hinge.
  - 4 Curtain material shall be .004" Mylar in four color breaks of sufficient length to provide at least twenty five line readings. Type style shall be Helvetica, medium, upper case.
  - 5 Type shall be ADA compliant and of appropriate size to fit reasonably within the compartment opening and assure passenger readability. Minimum opening shall be 6"x 31". Sign curtains must be easily removable for maintenance.
- F Public address system:
  - 1 An electrically amplified public address system shall be provided.
  - 2 This system shall be a Mobilpage 470 C model equipped as described below or an approved equal.
  - 3 The system amplifier must operate on 12 volts with 15 watt output. Amp shall be installed within the driver's utility compartment or in the destination sign compartment in a location that does not interfere with sign operation.

4 PA system shall be equipped with two loudspeakers (603B/6LP) installed in the roof header of the passenger area following manufacturer guidance for sound clarity and secure mounting.

5 Microphone shall be a Model 130 with a 72" coiled cord, a locking plug, and a gain control that is too mounted on the driver's instrument panel.

11 FLOOR, CONVENTIONAL FLOOR HEIGHT: Substitute for the raised floor specified the manufacturer's standard/conventional height floor.

12 FLOOR UNDERLAYMENT SUBSTITUTIONS:

A SUBSTITUTION: of North American Plywood Inc. - i.e. Finland & Form 13 Ply Sealed Waterproof Panel; ILO Space Age Synthetics ¾" 2611 board.

B SUBSTITUTION: of TVM's ACQ marine grade plywood underlayment ILO Space Age Synthetics 2611 board specified.

C If any other underlayment material upgrades are offered, pricing for such is requested. Underlayment upgrades must be stronger than ACQ marine grade plywood and/or offer increased insulation, durability and/or resistance to delaminating on comparison with the underlayment used in the make and model bus tested at FTA's Bus Testing Center in Altoona, PA.

13 FOLD-UP SEAT:

A Forward facing, fold-up seats that can be folded up against the interior side walls of the vehicle. Each of these seats must provide seating positions for 2 passengers.

B All material used in the upholstery of the seats shall be of fire retardant material.

C All passenger seats must be the same color as the driver's seat.

D A handrail will be provided along the top of each aisle seat.

E Price bid should be for each 2-person fold-up seat.

F Fold-up seats shall be mid back seats with integrated lap seat belts.

14 LABELING: Vehicles are to be labeled on both sides with minimum 5" high contrasting upper-case vinyl letters, "PUBLIC TRANSPORTATION" and include a ten digit telephone number with two dashes. Bid this item using this as an example: (PUBLIC TRANSPORTATION 515-294-RIDE). Labeling shall be centered on vehicle sides below the windows if possible. Price bid should be for labeling on both sides of the vehicle.

15 MIRRORS, DRIVER'S

A Right and left outside rear-view flat mirrors ILO heated remote to be the Junior West Coast, Below Eye-Line or Low-Mounts (mirror less than 6" by 9") or equivalent. ILO mirrors specified.

B Aspheric or double convex mirrors, on each mounted on the right and left outside, to augment other rear view mirrors, specified, such as the BDS Dead Angle Mirror, or equivalent, shall be mounted to eliminate blind spots.

16 MOBILITY AID USER POSITIONS INCREASE TO 3 or 4:

A Inrcease QTY of USER POSITIONS (in addition to the two required):

B Pricing is requested to modify the floor plan specified increasing the mobility aid user positions to three and four users. Pricing provided should detail the cost entailed to substitute fold up seats for fixed seats or for any seat credits that might be entailed.

C Provide, as well, pricing of each additional MAU and MA securement and restraint system --above the two systems specified as being required.

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17 Mobility Aid User Lift Substion; Ricon or Maxon brand mobility aid user lift ILO Braun 403 &404 compliant lift, with weight capacity and platform dimensions that are as close as either manufacturer offers to those of the Braun model specified.

18 REAR SUSPENSION: UPGRADE: Shall be equipped with a rubber shear spring suspension system, such as the MOR/Ryde “RL” suspension system (or equivalent), to provide improved ride quality, vehicle handling, and suspension component repairability.

19 First step in the ambulatory passenger entrance heated with an electric resistance pad heater controlled by a switch accessible to the driver, to prevent ice build up in winter.

20 Mirrow Option removed:

21 Manuals for Chassis: A complete set of manuals. It is preferred that all publication be in CD-Rom format. However, the we will accept paper manuals or a combination of paper and CD (i.e., paper operators manual and CD service and parts manuals). Chassis set shall be all inclusive, containing all available chassis publications, to include at a minimum an operator's manual, service/repair instruction set (must detail all components), a complete fully illustrated parts manual (must include all components) and wiring diagrams.

22 Vendors shall bid the entire increase (+) or deduct (-) cost to provide an ACC brand air conditioning system and all it's allied components in lieu of the requested ACT brand system, as detailed in Section 4 sub-sections D, E, F, H, J, K, L, N, and O of the specifications. All other sub-sections shall remain as written and unchanged.

23 Vendors shall bid the cost to provide heated front quadspheric cross-over mirror system that works in compliment with the Rosco mirrors bringing bus mirror system into compliance with FMVSS standards for school busses.

24 Winter cover: a cover to protect the condenser and fans in the winter months shall also be provided. Mud flaps should be installed in front and back of the A/C condensers to also help prevent debris from getting into the condensers. $105.00

25 Heate Fuel Fired for Passenger Area $1,925

A Heating equipment shall conform to the following:

1 Combined interior heating capacity, TVM installed components in combination with the standard chassis OEM dash unit, shall be capable of maintaining an interior temperature of 70 degrees Fahrenheit with an exterior temperature of 0 degrees Fahrenheit and no wind.

2 The rear system shall consist of a fuel fired Webasto (DBW 2010) or Espar pre-heater, or equivalent, if necessary to maintain this minimum temperature during winter months. It shall be controlled by a switch in the driver's control panel.

3 A deduct to delete the fuel fired heater unit shall be reflected in the pricing (deduct) on each gasoline fueled vehicle.

4 Dash Unit – OEM standard factory heater/defroster to be furnished.

5 Auxiliary Heater – The vehicle shall be equipped with a hot-water, forced air re-circulating heater of 50,000 BTU rating (minimum) located in the rear half of the passenger area. This heater, in combination with the standard factory dash unit, shall be capable of maintaining an interior temperature of 70 degrees Fahrenheit with an exterior temperature of 0 degrees Fahrenheit and no wind.

6 All heaters shall bear a name plate which shall indicate the heater rating in accordance with the standard code for testing and rating automotive bus hot water heating and ventilating equipment. Said plate is to be affixed by the heater manufacturer which shall constitute certification that the heater performance is as shown on the plate.

7 Heater hoses shall be adequately supported to guard against excessive wear due to vibration. The hoses shall not dangle or rub against the chassis or sharp edges and shall not interfere with or restrict the operation of any engine function. A coolant shut-off valve and hoses that allow the hot coolant flow to the rear heater coil to be shut off will be installed and may be placed underneath and outside of the vehicle, but the shutoff valve must be placed in an easily accessible position and the valve and hoses must be well secured in a protected environment. If outside, a sticker indicating the location of the shutoff valve shall be placed on the body of the vehicle directly above its' location and properly marked "coolant shutoff valve". Heater hose shall conform to standard SAE J20c. Heater lines inside the passenger compartment shall be guarded to prevent accidental contact by driver or passengers.

26 Defrosting equipment: $75

1 OEM or equivalent, shall keep the windshield and the window to the left of the operator clear of fog, frost and snow.

2 Auxiliary 2 speed fan mounted in windshield area

3 Defroster ducts, if used, shall be designed to prevent the placing of objects which might obstruct the flow of air.

4 Portable heaters may not be used.

27 Drivers Seat Options:

A Freedman FSC High Back Reclining Driver Seat w/lumbar adjust and armrest. With std. pedestal. $210.00

B Freedman Sport Seat High Back Reclining Driver Seat w/lumbar adjust and armrest. With std. pedestal. $375.00

C Freedman Sport Seat High Back Reclining Driver Seat w/lumbar adjust, armrest and "Relaxor" Package(Heat and Massage). With std. pedestal. $710.00

D Ford Power Pedestal for use under FSC or Sport Seat. $169.00

E Ford Power Pedestal w/abs shroud for use under FSC or Sport Seat. $270.00

28 Passenger Seats:

A Window Arm Rest Delete per seat

B Window Seat Grab Bar Add $15 per seat

C Arm Rest Aisle Seat Add for Permanent Seats system

D Arm Rest Aisle Seat Add for Fold-up Seat system

29 Passenger Seats Upholstery

A Foam protecting moisture barrier is available for the grade 5 cloth seats for $3.50 per passenger position

B Substitute Morecare ™ microbial resistant vinyl ILO level 5 cloth is an option at a **deduct**, per passenger position, of $15

30 Wheelbase Length $400.00 Extend the bus chassis frame from a 176” to 186” WB to achieve optimal weight distribution, and passenger capacity.

31 Upgrade Batteries from 1500 to 1700 CCA. $150

30 SOLICITATION ACRONYMS:

ADA:	Americans with Disabilities Act
ADAG:	Americans with Disabilities Act Guidelines (promulgated by FTA and the Access Board)
AEM:	Auxiliary Equipment Manufacturer
AMBPASS:	Ambulatory passenger capable of being transported in a fixed, fold-up or flip-up seating position
APSD:	Ambulatory Passenger Service Door
BIL:	Bid Item Layout
BTU:	British Thermal Unit
CF:	Conventional Floor (refers to bus floor with wheel wells that intrude into the floor space available for securing MAUs or foot room of an AMBPASS)
DBE:	Disadvantaged Business Enterprise
EPA:	Economic Price Adjustment
FMVSS:	Federal Motor Vehicle Safety Standards
FSM:	Final Stage Manufacturer
FTA:	Federal Transit Administration
FTA MUL:	Federal Transit Administration Minimum Useful Life
GAWR:	Gross Axle Weight Rating
GVWR:	Gross Vehicle Weight Rating
IFB:	Invitation for Bid includes all items of the Solicitation Package
ILO:	In Lieu Of (item noted before this acronym is substituted for the item noted thereafter)
LCW:	Loaded Curb Weight
MAU:	Mobility Aid User (Passenger)
MAUP:	Mobility Aid User Position denotes a clear unobstructed space for securing a person with a mobility aid and that person's mobility aid (30" width by 48" length by 68" height minimum, unless otherwise specified for buses less than 22' in length)
MML:	Mid-Mounted Lift/Level Change Device (generally located between the axles immediately to the rear of the APSD)
MUL:	Minimum Useful Life attributable to a vehicle by a Final Stage Manufacturer
OEM:	Original Equipment Manufacturer
PA:	Procurement Administrator
PTS:	Public Transit System
RAEEC:	Request for Approved Equal, Exception or Clarification to bid instructions or item specification (a.k.a. Variance Request)
RF:	Raised Floor (refers to LD bus floor that is flat throughout the passenger area to provide more space for MA user securement positions and to eliminate ambulatory seating positions where wheel wells restrict the legroom and comfort of ambulatory passengers.
REED:	Rear Emergency Exit Door
SAE:	Society of Automotive Engineers
TVM:	Final Stage or Transit Vehicle Manufacturer
VDP:	Vehicle Description Package